

Appl. No. 10/786,566
Amdt. dated October 27, 2005
Reply to Office Action of August 10, 2005

PATENT

Amendments to the Drawings:

The attached sheet of drawings includes new Fig. 11A.

Attachment: New Sheet

REMARKS/ARGUMENTS

Claims 20-22 and 26-29 are pending. Claims 23-25 have been canceled without prejudice and without disclaimer. Claims 20, 22, and 26 have been amended. New claims 27-29 have been added. The specification and drawings have been amended. New Fig. 11A merely illustrates the steps described in paragraphs [0088]-[0093]. No new matter has been introduced. Applicants believe the claims comply with 35 U.S.C. § 112.

Applicants would like to thank the Examiner for the courteous interview extended to Applicants' counsel. During the interview, the Examiner and counsel discussed proposed amended claim 20, and the Examiner indicates that claim 20 as amended would overcome the rejections.

Claims 20 and 22 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Ohno et al. (US 2003/0229764 A1). Claims 21 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohno et al. in view of McGovern et al. (US 2005/0097260 A1).

Applicants respectfully submit that sole independent claim 20 as amended is novel and patentable over Ohno et al. and McGovern et al. because, for instance, they do not teach or suggest first and second storage volumes storing data accessed from the host computer according to a block access command; wherein data in the first storage volume are copied to a third storage volume of the storage volumes in the second storage subsystem and a third retention information corresponding to the first retention information is stored in the setting information storage area of the second storage subsystem according to a request for copying the data in the first storage volume so that write access to the third storage volume is prohibited based on the third retention information after the data stored in the first storage volume are copied to the third storage volume; and wherein data in the second storage volume are copied to a fourth storage volume of the storage volumes in the second storage subsystem and a fourth retention information corresponding to the second retention information is stored in the setting information storage area of the second storage subsystem according to a request for copying the data in the second storage volume so that write access to the fourth storage volume is prohibited

based on the fourth retention information after the data stored in the second storage volume are copied to the fourth storage volume.

The setting information storage areas of the first and second storage subsystems are shown in Fig. 2 according to a specific embodiment of the present application. "The setting information stored in a setting volume 60 of the first subsystem provides the setting (or administrative information) for internal LUs." See paragraph [0045]. "The table relating to attributes, permission, and retention is stored on the setting information volume 60 in the first storage subsystem. This setting information is migrated to the second storage subsystem to be activated when the data stored in the data volumes in the first subsystem are migrated to the second subsystem, as will be explained later. The mapping information of Fig. 6 are also stored in the setting volume 60 and transferred to the setting volume of the second subsystem during the migration." See paragraph [0051]. "That is, each I-LU has a retention term for the attributes, and whenever the I-LU is being migrated, the controller of the second storage subsystem migrates the retention term as part of the setting information." See paragraph [0069]. "The setting information is stored in the cache or the I-LU as part of nonvolatile storage, e.g., NVRAM, to avoid the loss of the setting information during a power failure. First setting information 1102 represents the setting information as defined prior to copy operation. Second setting information 1104 represents the setting information as defined after the copy operation." See paragraph [0086] and Fig. 11. "At step 1116, the application sends a request to the controller to mirror the data and a corresponding setting record from I-LU2 to I-LU8. The setting record refers to the setting information for a given I-LU or storage volume. The setting record includes attribute, permission information, and retention information for the data in question." See paragraph [0091] and Fig. 11A.

Ohno et al. does not disclose retention information. Neither Ohno et al. nor McGovern et al. teach storing retention information "in the setting information storage area of the second storage subsystem according to a request for copying the data in the first storage volume" so that the write access is prohibited.

For at least the foregoing reasons, claim 20, and claims 21, 22, and 26-29 depending therefrom, are novel and patentable over Ohno et al. and McGovern et al.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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